



IN THE UNITED STATES PATENT AND
TRADEMARK OFFICE

In re PATENT APPLICATION of

Yuichi ITOH et al.

Atty. Docket No.: 1254-0170P

Serial No. 09/779,558

Group: 1713

Filed: February 9, 2001

Examiner: EGWIM, KELECHI C.

For: LOW FOGGING THERMOPLASTIC ELASTOMER COMPOSITION AND
MANUFACTURING METHOD AND USE OF SAME COMPOSITION

DECLARATION PURSUANT TO 37 C.F.R.1.132

1. I, Kunihiko Mizumoto, do hereby declare as follows:

I received Master of Engineering from Graduate School of Engineering
Osaka University in March, 1985. Since April, 1985, I have been employed by
Mitsui Kagaku Co.

I have a full knowledge of the present invention and cited references.

2. In order to demonstrate the patentability of the present invention, the
following experiment was carried out.

An olefinic thermoplastic elastomer composition was produced(molded) in
the same way as Example 1 of the Specification, except for using as mineral oil
softening agent Tufflo 6056 used by Rinehart.

Regarding the olefinic thermoplastic elastomers thus obtained, the
following evaluation test was conducted, and the results and the results of

Examples 1-4 of the Specification are shown in Table I.

[Antifogging test]

Using the obtained pellets, the fogging after 100 °C and 3 hours was evaluated in terms of haze values according to the prescription of A method of DIN.

[Gloss (visual observation)]

The gloss was judged by visual observation.

Criterion:

○: glossy

△: a little glossy

✗: not glossy at all

[Tensile properties]

The tensile properties were measured according to the prescription of JIS K6301.

M_{100} : stress at 100% elongation

T_B : tensile strength at break

E_B : tensile elongation at break

Table 1

	Example				Tufflo 6056
	1	2	3	4	
[Antifogging test]					
Haze (%)	1.4	1.4	1.9	2.1	3.3
Gloss	○	○	○	○	○
[Tensile properties]					
M_{100} (Kg/cm ²)	4.1	3.6	4.1	3.3	4.0
T_B (Kg/cm ²)	9.0	7.7	9.5	9.1	9.3
E_B (%)	570	520	570	520	500

I state that the present invention, by using a paraffinic oil having an evaporation loss of 0.4% or less, leads to unexpected results over Tufflo 6056 having an evaporation loss of more than 0.4%, and consider that the comparative example in this Declaration using Tufflo 6056 is the closest prior art example.

3. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: This 14th day of December, 2004

Kunihiko Mizumoto

Kunihiko Mizumoto

PRODUCT INFORMATION

CITGO TUFFLO® 6000 SERIES
PROCESS OILS

Date 10/03

DESCRIPTION: CITGO Tufflo® 6000 Series Process Oils are technical grade white mineral oils made by a severe hydrotreatment process developed to enhance product purity and stability as compared to conventional process oils. They are available in a wide viscosity range.

QUALITIES: CITGO Tufflo® 6000 Series Process Oils exceed the requirements of the U.S. FDA regulation 21 CFR 178.3620 (b).

These Oils are colorless, odorless, non-staining and essentially free of aromatic carbon content. They are water white in color, have superior color stability and excellent resistance to thermal and oxidative degradation.

They have excellent lubricity for recommended applications, and are economical for applications requiring white mineral oils but not requiring food grade certification.

APPLICATIONS: CITGO Tufflo® 6000 Series Process Oils are recommended for use as plasticizers and extenders for very light colored rubbers and plastics, and process aids for color stable caulks and sealants, and all applications requiring very high stability and low solvency oils.

These oils are excellent as textile fiber lubricants where it is critical that the lubricant be colorless, odorless, and non-staining.

These oils exceed the requirements for U.S. FDA regulation 21 CFR 178.3620 (c), for use as paper defoamers, in adhesives, rubber articles, and as a surface lubricant in the food packaging area. Low viscosity oils are used as a paper processing aid.

TYPICAL PROPERTIES:

CITGO TUFFLO® 6000 SERIES PROCESS OILS

	6006	6016	6026	6036	6056
VIS Grade	70	90	200	350	500
Material Code	669373001	669205001	669374001	669375001	669376001
Gravity, °API, ASTM D 287	34.6	33.7	32.8	32.0	31.3
Flash Point, ASTM D 92, °F	360	375	410	450	480
Viscosity, ASTM D 445, cSt at 40°C	12.3	15.6	38.8	67.5	103.5
ASTM D 2161, SUS at 100°F	71	85	200	350	460
SUS at 210°F	36.5	38.0	46.4	55.0	66.1
Aniline Point, ASTM D 611, °F	221	225	236	240	250
Refractive Index, 20°C, ASTM D 1218	1.4660	1.4685	1.4720	1.4748	1.4770
Viscosity Gravity Constant, ASTM D 2501	0.812	0.810	0.808	0.806	0.800
Pour Point, ASTM D 97, °F	-20	+10	+10	+15	+20
Color, Saybolt, ASTM D 156	+20	+20	+20	+20	+20
Volatility, 22 hrs, ASTM D 972 at 225°F, %	4.9	2.0	1.6	1.0	0.3
Molecular Weight, ASTM D 2502	310	350	410	470	530